and three feet long. There are quantities also of Herb Robert. The oak-leaved plant is a composite whose name I do not remember. Below the hart's tongue, in the cedar thickets were occassional sods of thick moss covered with numerous fine plants of *Camptosorus*. Not very many other species of ferns grew in the immediate neighborhood of the hart's tongue, but below in the valley there was a very good assortment. My story would not be complete here unless I tell how many kinds I have found in how restricted an area. I think I could now after a sufficient number of swings, drive a couple of golf balls so that the triangle between their starting and stopping places would enclose twenty-five kinds.*

The station I first found has since disappeared from causes I do not know. Perhaps trees fell so as to leave the slope too open and exposed to the sun. Perhaps others found it, and collected too many plants. I collected one plant for my fern garden when I first found the place, but afterward swore off taking plants as too liable to lead to the extinction of the stations, and I would not now take any one to see the fern growing except with the understanding that only leaves would be collected. With such an understanding I should like to be one of a group of the members of the Society to make a trip to the Jamesville region some summer.

BROOKLYN, N.Y.

A peculiar form of Pellaea atropurpurea Link.

F. L. PICKETT.

On a limestone ledge, known locally as Cedar Cliff, about three miles northwest of Harrodsburg, Monroe County, Indiana, the Cliff Brake, *Pellaea atropurpurea* Link., is found growing luxuriantly and abundantly.

*One ought to drive a golf ball at least two hundred yards.

Early the past spring the writer noticed marked difference in the color of different clumps and in the shape of their pinnae. The difference is so noticeable, some being pure leaf green or but slightly tinged with the peculiar blue-glaucous tint and the other scarcely appearing green but rather dark blue-green, that the clumps can be distinguished from a considerable distance. Reference to descriptions at hand failed to clear the matter up, for the other differences, noted below, which are evident after careful examination of the plants are most peculiarly mixed up in the usual descriptions. Two questions have arisen, viz: Which of these, if either, is to be taken as the type of *P. atropurpurea* Link? Is the other a representative of another species or a variety of the above? At the suggestion of Dr. Benedict, to whom the question was referred, a full statement of the differences is submitted in the hope that some one will set the matter right.

In general the following description fits both forms. Rootstock short and densely clothed with hairlike scales. Stipes tufted, dark brown to black, 3-15 cm. long. Fronds coriaceous, lanceolate to ovate in outline, pinnate or twice pinnate below. Veins obscure, commonly twice forked. Indusium formed of the slightly membranaceous, incurved margin of the pinna.

The differences are given in detail below. The difference in shape and color of pinnae largely disappears when the specimens are dried, the rather thicker broad leaf form rolling its margins much more than the other unless unusual pressure is used, and the blue-green becoming much more nearly leaf green. In making examinations for the following notes both living and dried plants have been used. For convenience of reference the two forms will be designated as the long leaf (l. l.) and the broad leaf (b. l.) forms.

Stipe and rachis:

(l. l.) Hirsute with long delicate hairs, appressed, persistent, more abundant on the upper portion and extending to the stalks of the pinnae, giving the whole a scabrous appearance.

(b. l.) Naked or with very few scattered, spreading hairs, surface smooth, polished darker than in (l. l.)

Fertile Pinnae:

(l. l.) Upper, simple, stalked except the topmost pair, narrowly lanceolate or oblong to linear, reaching 5 x 45 mm, smooth and pure green above, light green or whitish below with scattered, colorless hairs on the midvein, many halberd shaped or forked. Apex acute, base truncate or slightly cordate. Lower pinnae pinnate with one to five pairs of ovate to lanceolate pinnules. Stalks of compound pinnae up to 2 cm. long.

(b. l.) Upper pinnae ovate to elliptical, sometimes oblong, rarely larger than 4 x 20 mm., sessile except the lower pairs, apex rounded or slightly emarginate; base truncate or cordate, sometimes auricled and clasping. Upper surface bluish, glaucous green, otherwise smooth. Lower surface smooth with veins almost free from hairs at all ages. Lower pinnae completely or incompletely pinnate with ovate pinnules or broad rounded lobes.

Sterile Pinnae:

(l. l.) Upper pinnae simple, ovate-oblong to oblong, up to 12 x 25 mm. Margin strongly crisped with a narrow (.25 mm.) membranaceous border. Apex rounded or acutish, base cordate. All but the top pair are stalked with stalks up to 6 mm. in length. Upper surface, smooth, true

green and showing the veins more plainly than in the broad leaf form. Lower surface, whitish green and smooth except the midvein which has many long, scattered, colorless hairs. Lowest pinnae compound with one or two pairs of pinnules in every way like the simple pinnae.

(b. l.) Simple pinnae, cordate to ovate or elliptical, up to 8 x 15 mm. Margin, plane with a wider (.5 mm.) membranaceous border. Apex, broadly rounded to emarginate; base cordate or clasping. Pinnae crowded or overlapping, blue-glaucous above, smooth and slightly lighter green below. Lower pinnae lobed or pinnate with orbicular or cordate pinnules, sometimes short stalked.

Scales at Base:

(l. l.) Linear, two to ten cells wide at base and extending into very long and slender tips, colorless or yellow, rusty in mass.

(b. l.) Linear-lanceolate, ten to twenty cells wide at base, without the long slender tips, orange to brown in color.

Spores:

(l. l.) 47-62μ x 58-78μ, ovoid, with a few prominent, uneven ridges, giving the spores a ragged appearance.

(b. l.) 58-78μ x 79–109μ, obscurely tetrahedral, with numerous slight ridges, appearing almost smooth and darker than the (l. l.) form.

Culture experiments are now in progress to determine whether or not there are differences in gametophytic structure. The results of these will be reported later.

The original descriptions are not available here, but taking Eaton's description as a basis it seems that the (l. l.) form is nearer the type, varying from the description in the acute tips of the fertile pinnae, the longer

and rather narrower sterile pinnae with strongly crisped margin, and the presence of many appressed hairs on the stipe. Probably the nearest description of the (b. l.) form is that of *P. glabella* by Mettenius and Kuhn; but the writer has not seen the full text of that description. Eaton considers *P. glabella* as a regional form of *P. atropurpurea*. If the (b. l.) form is the same as *P. glabella* it is certainly distinct enough for consideration. If it does not fit that description it is certainly worthy of a place as a form or variety of *P. atropurpurea* and might probably be designated as var. *latifolia* of that species.

Any notes of similar forms found elsewhere or any suggestions as to diagnosis will be very welcome.

BOT. DEP. INDIANA UNIVERSITY,
BLOOMINGTON, INDIANA.

American Fern Society

EAST HARTFORD, CONN., JULY 19, 1914.

To C. H. BISSEL,

President American Fern Society:

The detailed vote on the revision of the Constitution of the American Fern Society is as follows:

Total number of votes cast	62
Necessary for adoption	42
For	60
Against	2

The revised Constitution is therefore adopted.

C. A. WEATHERBY, *Secretary.*

SOUTHINGTON, CONN., JULY 25, 1914.

Acting in accordance with the result of vote as announced by your Secretary, I hereby declare that the revised Constitution, as presented by your committee, Mr. R. A. Ware and Mr. E. J. Winslow, has been regularly adopted and is now the recognized and official Constitution of the American Fern Society.

C. H. BISSELL, *President.*